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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/889,003	08/28/2001	Malte Bahner	4139-120	4713

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INTELLECTUAL PROPERTY / TECHNOLOGY LAW
PO BOX 14329
RESEARCH TRIANGLE PARK, NC 27709

EXAMINER

AZARIAN, SEYED H

ART UNIT

PAPER NUMBER

2625

DATE MAILED: 10/21/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.		Applicant(s)	
	09/889,003		BAHNER ET AL.	
	Examiner		Art Unit	
	Seyed Azarian		2625	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 January 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 8/28/2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>9/11/2003</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Objections

1. Claims 6, 7, 9-10 and 14-20 objected to under 37 CFR 1.75(c) as being in improper form because a multiple dependent claim cannot depend from another multiple dependent claim. See MPEP § 608.01(n). Accordingly, the claims 6, 7, 9-10 and 14-20 not been further treated on the merits.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1, 2 and 8, are rejected under 35 U.S.C. 102(b) as being anticipated by David T. Long et al (comparative evaluation of image segmentation methods for volume quantitation in SPECT).

Regarding claim 1, Long discloses a method for determining volumes in human bodies or animal bodies (page 483, section 1, first paragraph, computation of volume by tomographic);

wherein image data of an interesting volume are acquired by means of a suitable imaging method and the acquired image data are segmented in a manual, semi-

automated or fully automated fashion (see abstract and page 484, section B. image segmentation using operator-drawn);

and wherein dimensional information on the interesting volume is automatically determined from the segmented image data, characterized by the fact (page 483, section II. Image segmentation for volume and generating of image data sets with known and controllable characteristics);

that at least one characteristic value is assigned to the steps in which the image data is acquired and segmented, with said characteristic value representing a measure for the error occurring in these steps, by the fact that an error which represents a measure for the error occurring during the determination of the dimensional information is determined from the assigned characteristic value, and by the fact (Fig. 2, page 485, section III. indicate contrast noise (error));

that the error value is displayed or output, respectively, preferably together with the assigned dimensional information (page 485, section III. The error bars indicate (display), the standard deviation).

Regarding claim 2, Long discloses the method according to Claim 1, characterized by the fact that at least one characteristic value is also assigned to the interesting volume and taken into consideration when determining the error value of the dimensional information (see claim 1, also page 484, paragraph 2, volume quantitation were of six filled spheres arranged in a circular pattern, the diameters of the spheres were 6.0, 5.0, 4.0, and 1.5 respectively).

Regarding claim 8, Long discloses the method according to Claim 2, characterized by the fact that the at least one characteristic value assigned to the interesting volume contains a measure for the size and/or the shape of the interesting volume (page 483, third paragraph comparative evaluation in system response characteristics, size, shape and contrast).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

5. Claims 3/1, 3/2, 3/4, 3/5, 4, 5, 11, 12, 13/11 and 13/12, are rejected under 35 U.S.C. 103(a) as being unpatentable over David T. Long et al (comparative evaluation

of image segmentation methods for volume quantitation in SPECT) in view of Ballantyne et al (U.S. patent 5,867,821).

Regarding claim 3, Long fails to disclose "characteristic value is assigned to each person carrying out the method". On the other hand Ballantyne teaches an unique identification number (ID) is assigned to each user and their personal profile data is stored electronically online. User are subdivided into specific categories (Fig. 9A, 9B, column 8, lines 14-35).

Therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Long diagnostic system invention according to the teaching of Ballantyne because it provides a unique categories relative to their qualifications, their professional status, which can easily be implemented in an imaging device such as tomographic.

Regarding claim 5, Long to discloses the method according to Claim 4, characterized by the fact that the automatic determination of the characteristic value assigned to a person is realized based on a manual or semi-automated segmenting process which is carried out by the respective person with predetermined test data (see claim 3 and abstract and page 484, section B. image segmentation using operator-drawn).

Regarding claim 11, Long fails to disclose "memory storage". On the other hand Ballantyne teaches the memory storage media consists of dedicated or combination of memory devices including magnetic memory or electro-optical memory, high speed solid state memory (column 6, lines 20-31).

Therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Long diagnostic system invention according to the teaching of Ballantyne because it provides a device where information can be stored and retrieved. Memory can refer to external storage such as disk drive or tape drive, which can be implemented in an images device such as X-ray, MRI or tomographic.

Regarding claim 13, Long discloses the device according to Claim 11 or 12, characterized by the fact that means are provided for displaying and/or outputting the determined dimensional information and the determined error value (Fig. 2, page 485, section III. indicate contrast noise).

Regarding claims 4 and 12, it recites similar limitation as claims 1 and 11, are similarly analyzed.

Other prior art cited

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

U.S. patent (6,061,589) to Bridges et al is cited for microwave antenna for cancer detection system.

U.S. patent (4,922,203) to Sillerud et al is cited for polarization transfer NMR imaging.

U.S. patent (6,117,078) to Lysyansky et al is cited for virtual volumetric phantom for ultrasound hands-on training system.

U.S. patent (4,856,528) to Yang et al is cited for tumor volume determination.

U.S. patent (4,961,425) to Kennedy et al is cited for morphometric analysis of anatomical tomographic data.

Contact Information

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Seyed Azarian whose telephone number is (703) 306-5907. The examiner can normally be reached on Monday through Thursday from 6:00 a.m. to 7:30 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bhavesh Mehta, can be reached at (703) 308-5246. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application information Retrieval (PAIR) system. Status information for published application may be obtained from either Private PAIR or Public PAIR.

Status information about the PAIR system, see [http:// pair-direct.uspto.gov](http://pair-direct.uspto.gov). Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



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October 11, 2004